CLAIMS

What is claimed is:

1. An alignment target comprising:

a reflective member; and

a non-reflective field configured to be proximate to said reflective member and comprising an absorptive material and a scattering structure, wherein said absorptive material comprises a poly-crystalline material.

2. The alignment target of claim 1 wherein said scattering structure comprises at least one edge slope.

3. The alignment target of claim 2 wherein said at least one edge slope is formed by boundaries between areas of poly and no poly.

4. The alignment target of claim 3 wherein said edge slopes are created in a checkerboard pattern.

5. The alignment target of claim 4 wherein said reflective member comprises a metal.

6. The alignment target of claim 2 wherein said at least one edge slope is formed by contact cuts in a single material.

7. The alignment target of claim 2 wherein said edge slopes are formed by diffusion.

8. The alignment target of claim 2 wherein said edge slopes are formed on more than one layer.

9. The alignment target of claim 5 wherein said reflective member comprises two rectangular reflective members located at right angles to each other.

10. An alignment target comprising:

a reflective member; and

a non-reflective field configured to be proximate to said reflective member and comprising at least one of an absorptive material and a scattering structure.

11. The alignment target of claim 10, said non-reflective field comprising both said absorptive material and said scattering structure.

12. The alignment target of claim 10 wherein said absorptive material comprises a poly-crystalline material.

13. The alignment target of claim 10 wherein said scattering structure comprises at least one edge slope.

14. The alignment target of claim 13 wherein said at least one edge slope is formed by boundaries between areas of poly and no poly.

15. The alignment target of claim 14 wherein said edge slopes are created in a checkerboard pattern.

16. The alignment target of claim 15 wherein said member comprises a metal.

17. The alignment target of claim 13 wherein said at least one edge slope is formed by contact cuts in a single material.

18. A wafer alignment system comprising:

a photo-detector;

a wafer configured to be scanned by a beam from said photo-detector; wherein said wafer comprises an alignment target further comprising:

a reflective member; and

a non-reflective field configured to be proximate to said reflective member and comprising at least one of an absorptive material and a scattering structure, wherein said non-reflective field is configured to enhance contrast in the amount of said beam reflected to said photo-detector by said non-reflective field and said reflective member and thereby enhance wafer alignment.

19. The wafer alignment system of claim 18, said non-reflective field comprising both said absorptive material and said scattering structure.

20. The wafer alignment system of claim 18 wherein said absorptive material comprises a poly-crystalline material.

21. The wafer alignment system of claim 18 wherein said scattering structure comprises at least one edge slope.

22. The wafer alignment system of claim 21 wherein said at least one edge slope is formed by boundaries between areas of poly and no poly.

23. The wafer alignment system of claim 22 wherein said edge slopes are created in a checkerboard pattern.

24. The wafer alignment system of claim 23 wherein said member comprises a metal.

25. A method of aligning a wafer comprising the steps of:

shining a beam of light from a light source onto a wafer;

reflecting a portion of said beam of light from a reflective member to a photo-detector;

reflecting a reduced portion of said beam of light from a non-reflective field

to said photo-detector, wherein said reflecting a reduced portion step comprises at least one of the steps of: absorbing a portion of said beam of light and reflecting a portion of said beam of light away from said photo-detector;

identifying a current position of said wafer based on the contrast in said beam of light reflected from said reflective member and said non-reflective field; and

adjusting the position of said wafer based on said current position of said wafer.

26. The method of claim 25, wherein said reflecting a reduced portion step comprises the steps of: absorbing a portion of said beam of light and reflecting a portion of said beam of light away from said photo-detector.

27. The method of claim 25 wherein said absorbing step is facilitated by a poly-crystalline material.

28. The method of claim 25 wherein said step of reflecting a portion of said beam of light away from said photo-detector includes scattering said beam of light with at least one edge slope.

29. The method of claim 28 wherein said at least one edge slope is formed by boundaries between areas of poly and no poly.

30. The method of claim 29 wherein said absorbing and said scattering are caused by edge slopes created in a checkerboard pattern with said poly and no poly areas.